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                   IN THE UNITED STATES DISTRICT COURT
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                   FOR THE WESTERN DISTRICT OF VIRGINIA
 4
                            ABINGDON DIVISION
 5
     UNITED STATES OF AMERICA,
                   Plaintiff,
                                       Criminal Case No.
 6
                                       1:17-cr-00027-JPJ-PMS-1
 7
     vs.
 8
     JOEL A. SMITHERS,
 9
                   Defendant.
10
                    TRANSCRIPT OF JURY TRIAL - DAY 5
11
                HONORABLE JUDGE JAMES P. JONES PRESIDING
12
                           FRIDAY, MAY 3, 2019
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16
17
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     Proceedings taken by Certified Court Reporter and transcribed
     using Computer-Aided Transcription
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(Proceedings commenced at 9:03 a.m.)
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               THE COURT: Good morning, ladies and gentlemen.
 3
               The trial that I had next week has gone away. It's
 4
     been settled. And the clerk, at my direction, asked the
 5
     Government if it was -- would be prepared to go with its
     expert that was going to testify on Thursday earlier.
 6
 7
               Is that --
 8
               MR. RAMSEYER:
                              We were able to get ahold of him, and
 9
     he's going to be here Monday morning at 9:00, Your Honor.
               THE COURT: All right. So we -- you anticipate that
10
11
     that's the last Government witness.
12
               MR. RAMSEYER: At this time, Your Honor.
13
               THE COURT: So, Mr. Williams, will you be ready to
14
     proceed then.
15
               MR. WILLIAMS:
                             Your Honor, I think certainly, one of
16
     the things, we had one witness the Court recognized, I think
17
     we didn't recognize him back until Thursday. Certainly if we
18
     are able to get their subpoenas issued and served, we don't
     have any problem going forward.
19
20
               THE COURT: Well, that's true. I did recognize him
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     for Thursday. But let's -- why don't you contact him and say
22
     the judge has directed him to return --
2.3
               MR. WILLIAMS:
                              Okay.
2.4
               THE COURT: -- on Monday.
25
               MR. WILLIAMS: Okay. I will. I think we had at
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1 least a couple other witnesses I think initially I had summonsed for the start of next week. I think we decided not 2 3 to -- feeling like the Government's case was going to go a lot 4 longer, and I certainly need to probably reach out to those, 5 see if we can contact those and can get those here as well. But we will certainly do everything at all possible to try and 6 7 get those witnesses here. 8 THE COURT: And what about your expert? 9 MR. WILLIAMS: Your Honor, we're going to withdraw the request for expert at this time. 10 11 THE COURT: All right. Very good. 12 So we'll have trial on Monday and hopefully continue 13 on until we conclude the evidence. So I'll tell the jury that news. We'll have the 14 And the Government is otherwise ready to go? 15 jury in. 16 MR. RAMSEYER: Yes, Your Honor. 17 (Proceedings held in the presence of the jury.) 18 THE COURT: Good morning, ladies and gentlemen. 19 Good to see you. 20 I have some news about our schedule. 21 appears the Government has one witness, maybe somewhat 22 lengthy, but it's likely, I think, that he probably will not 23 go all day today. The trial that I had for next week has gone 24 away, the other trial. So I'll need you to come back on 25 Monday morning instead of Thursday. And we're getting close

to the end, so that's good news. I hope you didn't have 1 2 any -- it doesn't inconvenience you, but it's good news that I 3 think we're going to be able to I think conclude hopefully 4 pretty quickly next week in perhaps one or two days. 5 So, again, it will be necessary for you to be back Monday morning at 9:00. Again, hopefully either that day or 6 the next day we'll be able to finish the evidence in the case. 7 8 That's my hope. 9 So I'm sorry about that change, but I think it's for the best to get you back into your regular life without this 10 11 obligation. And, again, I apologize if that made any 12 inconvenience to you, but it was just one of those things that 13 happened. So that's where we are. 14 The Government may call its next witness. 15 MR. JUHAN: The United States calls Dr. Stacey Hail. 16 THE CLERK: If you'll come forward. 17 If you'll raise your right hand. 18 Do you solemnly swear that the testimony you're about to give in this case shall be the truth, the whole 19 20 truth, and nothing but the truth, so help you God? 21 THE WITNESS: Yes. 22 THE CLERK: You may take the stand. 23 DR. STACEY HAIL, Called as a witness herein by the Government, having been 24 25 first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

2 BY MR. JUHAN:

- 3 Q. Would you please introduce yourself to the jury.
- 4 A. Good morning. My name is Dr. Stacey Hail.
- 5 Q. And, Dr. Hail, how do you spell Stacey and how do you
- 6 | spell Hail?
- 7 A. S-t-a-c-e-y. H-a-i-l, like a hail storm.
- 8 Q. Thank you.
- 9 And you're a medical doctor; correct?
- 10 A. Correct.
- 11 Q. Just now you took an oath before you came on the stand;
- 12 correct?
- 13 A. Correct.
- 14 Q. But as a medical doctor, there's another kind of oath you
- 15 have also?
- 16 A. Yes.
- 17 Q. What is that oath called as a doctor?
- 18 A. The Hippocratic Oath.
- 19 Q. Would you tell the jury what the Hippocratic Oath is.
- 20 A. The Hippocratic Oath is an oath that you take when you
- 21 | graduate from medical school to promise to do no harm.
- 22 Q. And when you promise to do no harm, to whom are you
- 23 promising to do no harm?
- 24 A. Your patients.
- Q. Now, where are you from, Dr. Hail, originally?

- 1 A. I am originally from Oakton, Virginia, and grew up here
- 2 until I was 11. So this area is very nostalgic because when I
- 3 was a little girl we used to be apple picking in the
- 4 mountains.
- 5 Q. And do you still live in Virginia?
- A. I don't. We moved away when I was 11 to Georgia, and I'm
- 7 currently living in Dallas, Texas.
- 8 Q. So let's talk about a little bit of your professional and
- 9 educational background and how you ended up in Dallas, Texas.
- 10 Where did you go to school?
- 11 A. I went to Southern Methodist University in Dallas, Texas,
- 12 and I received a Bachelor of Science in Chemistry, which took
- 13 | four years.
- 14 | Q. So after you got your BS in chemistry, where did you go
- 15 then?
- 16 A. I went back to Georgia, since I was still a Georgia
- 17 resident technically, and I went to the Medical College of
- 18 | Georgia where I received my medical degree. That is in
- 19 Augusta where I obtained my master's.
- 20 Q. How long does it take to get a medical degree?
- 21 A. Four years.
- 22 | Q. And where did you go after you got your medical degree?
- 23 A. After my medical degree I went back to Dallas, Texas,
- 24 where I did my internship and residency in emergency medicine
- as part of the University of Texas Southwestern and Parkland

- 1 Hospital. Parkland is where they took JFK when he was shot.
- 2 Q. Now you mentioned two terms there; internship and
- 3 residency. Could you elaborate for the jury what those mean
- 4 in the medical profession?
- 5 A. An internship is the first year of your training. It
- 6 tends to be pretty diverse, and you rotate through different
- 7 | specialties, like pediatrics, and OB/Gyn, and surgery. And
- 8 then the last couple years are called residency, and they are
- 9 more focused on the specialty. So, in my case, emergency
- 10 medicine.
- 11 Q. And what about -- so there's the internship and then
- 12 | there's the back half that's part of the residency?
- 13 A. The whole thing is called a residency. The first year is
- 14 known as the internship.
- 15 \mid Q. And once you got out of the internship phase, you were
- 16 | more focused on emergency medicine; is that correct?
- 17 A. Correct.
- 18 | Q. And then when you finished your residency, what did you
- 19 do then?
- 20 A. I did a two-year fellowship in medical toxicology that
- 21 | was through Parkland Hospital and the North Texas Poison
- 22 Center.
- 23 Q. And, again, can you kind of explain a little bit more
- 24 what a fellowship in medical terms is?
- 25 A. A fellowship is specialty training beyond your residency.

So perhaps the more common example to think of would be, say,

- 2 a cardiologist. All cardiologists have gone and done a
- 3 residency in internal medicine. But, then, if they want to
- 4 become a cardiologist, or a heart doctor, they have to do
- 5 | additional training beyond residency to become a cardiologist.
- 6 So, in my case, I did a fellowship in medical toxicology
- 7 beyond emergency medicine.
- 8 Q. So is it fair to say that medical toxicology is a
- 9 specialty?
- 10 A. Yes.
- 11 Q. And is there some kind of certification or fellowship
- designation process one has to go through to become a medical
- 13 toxicologist?
- 14 A. You can't come straight out of medical school and do a
- $15 \mid \text{fellowship}$ in medical toxicology. You have to actually do a
- 16 residency in something first and then do the fellowship. Now,
- 17 a lot of people say, well, that's kind of strange, you're an
- 18 | emergency physician but you're also a medical toxicologist.
- 19 But when you think about poisoning, which is what toxicology
- 20 is, it's generally acute or emergent, like overdoses, or snake
- 21 bites, or chemical exposures. Those things all wind up in the
- 22 | emergency room, so it's logical for medical toxicology to
- 23 follow emergency medicine. There are fewer than 300 board
- 24 certified medical toxicologists in the entire country, so I'm
- 25 | pretty rare.

- Q. You said there are fewer than 300 board certified toxicologists in the country. What's that mean to be board certified and how did you become board certified?
 - A. To become board certified, first I had to do the residency in emergency medicine, then I had to become board certified in emergency medicine. So that requires completing the residency, doing a written exam, followed by an oral exam. And then to become board certified in medical toxicology, you have to complete the fellowship in medical toxicology and then pass a very, very difficult written test to become board certified.
- 12 Q. So you mentioned an exam and a test. Did you pass those?
- 13 A. Yes.

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- Q. So let's focus a little bit more now not on your history but what you're doing right now. What are some of your jobs?
- 16 A. Well, I first and foremost am an emergency physician, so
- 17 I help to staff the Parkland Hospital Emergency Department.
- 18 And beside being famous for where JFK was taken when he was
- 19 shot, it also holds the distinction of being the single
- 20 busiest emergency department in the entire country. So in
- 21 that sense I still work as an emergency physician.
- Q. And are you familiar with the term "Level I trauma
- 23 center"?
- 24 A. Yes.
- 25 Q. What does that mean?

- A. A Level I trauma center is a distinction of certain
 trauma centers that offer a certain number of services. So
 you have to have a 24/7 trauma team. You have to have a
 neurosurgeon. You have to have an orthopedic surgeon. So
 certain hospitals are designated as Level I when they offer
 all of these services.
- Q. So when you're working as a physician at the Parkland ER, can you explain to the jury what your day looks like and who you're interacting with.
- A. In the Parkland ER we are the designated indigent hospital in Dallas County, so we get all comers. And that means that on a given shift in the Parkland ER I may be taking care of heart attacks, strokes, overdoses, trauma patients, anything that comes in.
- 15 Q. What about any supervisory responsibilities you might 16 have at the hospital?
- A. So because we are an academic institution, I always have medical students and interns and residents that are working with me in the ER. Now, I can see patients on my own, and I often do, but I also am teaching at the bedside and supervising doctors in training.
- Q. Okay. So that's your work at the Parkland ER. What other roles do you do as a doctor?
- A. As a medical toxicologist, we have it set up out of the
 North Texas Poison Center where you go on call 24/7 for an

entire week. So, technically, I go on call at noon today.
But that's not going to work because I'm here and not there,
so someone is covering. But I would be on call from noon
today until Friday noon next week. And in that sense I help
to consult with physicians across North Texas who are managing
poisoned patients. Obviously, there are moms and dads that
call the poison center because their child drank bleach, but
we also get phone calls from doctors in different parts of
North Texas that need help and advice, or a consultation on
managing an overdose patient. So we do that over the phone
because obviously we can't be everywhere at one time.

Then during that week, so this whole next week after I leave here, I will lead toxicology rounds. It's a round table discussion and we talk about all of the cases that were called into the poison center by health care professionals, and then we round at the bedside at our Parkland Hospital, Children's Hospital, and University Hospital any poisoned patients that are at those hospitals.

- Q. Okay. So we talked about Parkland ER, we talked about the poison center, then are you also a professor?
- 21 A. I'm an associate professor of emergency medicine and 22 medical toxicology.
 - Q. And where are you a professor at?

- 24 A. University of Texas, Southwestern Medical Center.
- Q. So when you're wearing your hat as a professor, you just

- sit in an office all day doing research? What's that? What's going on?
- 3 A. So the answer would be no. As an associate professor,
- 4 most of my teaching is at the bedside, so, in the Parkland ER,
- 5 or on the ward seeing patients, or at Children's seeing
- 6 patients that are poisoned. Now, we have Thursday conferences
- 7 | for emergency medicine and I teach at those sometimes.
- 8 | Sometimes I teach in the medical school as a quest lecturer.
- 9 And then when it is my toxicology week, like this week coming
- 10 up, like I said, I will, after we round on the patients, then
- 11 I will give lectures on a toxicology topic to the rotators in
- 12 the poison center.
- 13 Q. Fair to say you're a pretty busy lady?
- 14 A. It seems like it, yes.
- 15 Q. Have you received any honors or awards over the course of
- 16 your career as a medical toxicologist and as an emergency
- 17 | medicine physician?
- 18 A. Yes. I was designated as a -- it's FACMT, which is a
- 19 | Fellow of the American College of Medical Toxicology, not to
- 20 be confused with a fellowship. And it is a distinction for
- 21 someone whose been practicing in that field for a period of
- 22 time and has offered service and research and things of that
- 23 sort.
- 24 \ Q. And I don't think we mentioned this earlier, but how long
- 25 have you been a medical doctor?

- 1 I graduated in 1999 from medical school. So that would Α. be 20 years. 2
- 3 So we've talked a little bit about toxicology. 4 explain to the jury what just a plain toxicologist is and
- The term toxicologist is kind of confusing because that 6
- 7 doesn't really explain what you're talking about. There are plenty of Ph.D. toxicologists, and they are more like lab
- They work in a laboratory setting. And their 9 rats.
- interaction with a patient is a test tube of blood or urine. 10
- 11 The distinction is, for me who is a medical toxicologist, we
- 12 are the toxicologists that treat poisoned patients. So our
- 13 interaction with the patient is the patient and how they are
- manifesting signs of toxicity. 14
- 15 So as a medical toxicologist, you're a little more hands
- 16 on with patients; is that a fair way to put it?
- 17 Correct. I do not work in a laboratory.
- 18 Now, in your experience over 20 years as a doctor and as
- a medical toxicologist, have you dealt with or assessed 19
- 20 whether a substance was deadly to a patient or could
- 21 potentially be deadly to a patient?
- 22 Of course. Α.

does?

5

- 23 Ballpark, how many times have you had that kind of
- 24 experience in your career?
- 25 Too numerous to count.

- Q. Okay. 100?
- 2 A. More than 100.
- 3 0. 500?

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- 4 A. Probably more.
- 5 0. A thousand?
- 6 A. Sure.
 - Q. Okay. So when you're doing that -- strike that.

When you're engaged with a patient that has a poisoning or a toxicology issue, what are kind of the principles and methods or things that you're looking to to try to figure out what's wrong with that person?

Well, when you see a patient in the Emergency Department, we call them an undifferentiated patient, meaning we don't know always what's going on with them. So I don't approach the patient in a toxicology tunnel. I make sure that they aren't a victim of trauma, that they are not suffering from an underlying natural cause, and I use what we call differential diagnosis, which is that if you come into my ER and you're complaining of chest pain, I ask you guestions, that's the history, that is very important, and then I supplement that with an EKG, or imaging, or labs, and that will help me to rule in or rule out a diagnosis. So differential diagnosis is this mindless process that we as physicians go through and trying figure out what's going on with somebody. Then with that added bonus of medical toxicology, I then approach the

- patient from a toxicology standpoint.
- 2 Q. And so in your career working in this field, have you
- 3 also dealt not just with live patients, but patients who have
- 4 been deceased?
- 5 A. Yes.

- 6 Q. And have you opined upon or investigated and tried to
- 7 | figure out what caused those deaths?
- 8 A. Yes. And the difference between an emergency physician
- 9 and a medical examiner is that often times I am seeing
- 10 | patients in an perimortem period, meaning that they're still
- 11 | alive, but they're very critical or they're dying. And seeing
- 12 a person as they're dying is very, very important. Because
- once somebody is dead, a dead body is a dead body is a dead
- 14 body. But there's a lot of information to be gleaned in that
- 15 | period of time when you as a physician are watching that
- 16 | patient in this critical time. Because dying from one thing
- 17 looks different from dying from another.
- 18 | Q. Do you try to sort -- kind of rule in certain things as
- 19 causes and also rule out at the same time? Is there kind of a
- 20 sorting process you go through?
- 21 \mid A. Yes, that's the differential diagnosis process.
- 22 Q. Okay. So over your career, how many cases or instances
- 23 of individuals who have died from poisoning or toxicity do you
- 24 think you've encountered?
- 25 A. Again, too numerous to count.

```
And do some of those involve opioid deaths?
 1
     Q.
          Okay.
 2
     Α.
          Yes.
 3
          And what other kinds of substances that you've
 4
     encountered besides opioids have killed individuals?
 5
     Α.
          Well, we, as toxicologists, manage snake bites, which in
     Texas can be pretty deadly. I see cocaine intoxication,
 6
 7
     methamphetamine intoxication. You know, being a toxicologist,
 8
     people are always coming up with new street drugs.
                                                          So all the
 9
     new synthetic marijuana, like A2 and bath salts, always trying
     to keep up with all the different drugs that enter the street
10
11
     market too.
12
               MR. JUHAN: Your Honor, at this time we'd move to
13
     qualify the witness as an expert in medical toxicology and
     emergency medicine.
14
15
               MR. WILLIAMS:
                              Your Honor, we would object.
16
               THE COURT: I'm sorry?
17
               MR. WILLIAMS:
                              We would object.
               THE COURT: And the basis of your objection?
18
               MR. WILLIAMS: We just feel that she's not
19
20
     qualified.
21
               THE COURT: I'll overrule the objection.
22
     proceed.
23
               MR. JUHAN: Thank you, Your Honor.
     BY MR. JUHAN:
2.4
25
          Now as an expert you're being compensated for your time
```

- 1 here in court today; correct?
- 2 A. Correct.
- 3 Q. You mentioned earlier, you live in Texas?
- 4 A. Correct.
- 5 Q. And you've talked about some of your jobs. You also have
- 6 a family?
- 7 A. I do.
- 8 Q. So it's fair to say that if you weren't here today, much
- 9 like the jury, you'd be doing some other things with your
- 10 life?
- 11 A. I would.
- 12 Q. So in full disclosure, what's the rate you're being
- compensated to come to court today?
- 14 A. \$550 an hour.
- 15 \mid Q. Are you being paid for the substance or the content of
- 16 your testimony?
- 17 A. No.
- 18 Q. Okay. So now that you've been qualified as an expert,
- 19 I'd like to get a little more in detail with you. You were
- 20 asked to look at some files for this case; correct?
- 21 A. Correct.
- 22 Q. In your experience as an educator and as someone who
- 23 trains other doctors, do you find it helpful to try to explain
- 24 concepts to other individuals using demonstrative aids?
- 25 A. Yes. I'm an associate professor that teaches, so, yes.

MR. JUHAN: Your Honor, with the Court's permission, we'd like the witness to be able to write on the ELMO and display screen for demonstrative purposes.

THE COURT: Yes, sir.

- 5 BY MR. JUHAN:
- Q. Now, ma'am, if you can follow along. Can you see the screen in front of you?
- 8 A. Yes.

1

2

3

- 9 Q. So if you hit this little arrow right there, it's going
 10 to bring you up a drawing. You can draw there. If at some
 11 point in time you're talking and there's something you want to
- 12 try to help convey to the jury, just feel free to use that.
- 13 A. Okay.
- Q. Now there's certain terms of art in your profession that
 you use and other experts use that are important to
- 16 understand; is that correct?
- 17 A. Correct.
- Q. So let's start with one of them. Let's talk about toxidrome. What is toxidrome?
- 20 A. Okay. That's one I'm going to try to -- so this is not
 21 me being condescending, this is -- just pretend that you are
- 22 my doctors in training at the North Texas Poison Center and
- 23 I'm going to teach you the tools of the trade, so to speak.
- 24 So this word toxidrome is a bread and butter medical
- 25 toxicology term. And it is mashing together the words "toxic"

- plus "syndrome". So toxic and syndrome together are toxidrome.
 - Q. So what is a toxidrome? Like, what does that mean in laymen's terms?
- 5 A. So a toxidrome are the signs and symptoms, constellation
- of signs and symptoms unique to a particular substance. So,
- 7 for example, if you watch the news and you hear about the
- 8 latest celebrity overdose, you hear the news commentators
- 9 talking about an overdose and you would think an overdose is
- 10 an overdose is an overdose. But that's not true. Dying from
- one kind of drug can look different from dying from another.
- 12 This is critically important. This is why we spend two years
- in training to learn these toxidromes. Looking toxic from
- 14 cocaine looks different from looking toxic from heroine.
- 15 Q. Is there a term in your profession called
- 16 sympathomimetic?
- 17 A. Sympathomimetic.
- 18 Q. Okay.

- 19 A. So, I'm going to write that --
- 20 Q. Since I can't say it.
- 21 A. -- since you couldn't say it.
- So sympathomimetic is one type of toxidrome. It
- 23 means mimicking the sympathetic nervous system. Your
- 24 sympathetic nervous system is your fight or flight nervous
- 25 system. So when you are toxic from, say, cocaine, or

methamphetamine, or bath salts, or PCP, you are sympathomimetic. You are acting agitated. You might have an elevated heart rate, an elevated blood pressure, seizures, sweaty.

And so this is an example of the toxidrome, the constellation of signs and symptoms from somebody who is high on cocaine. They are sympathomimetic. And this is important to understand because this is how I as a physician am looking at the patient when they come in toxic.

- Q. So you've talked about being symp -- the "S" word and cocaine. But other drugs wouldn't be like that; is that right?
- 13 A. Right.

- 14 Q. So can you talk a little bit about opioids?
- A. So I bring up sympathomimetic purely for contrasting purposes to teach you the difference.

The opioid toxidrome looks different. There are pinpoint pupils. There is central nervous system depression. This is unconscious. Central nervous system stands for, like, your brain. So if you are central nervous system depressed, you are unconscious. And then, most importantly, is respiratory depression. That means that if you are toxic from an opioid you breathe slower and slower and slower until you stop breathing and die. And the word for that is apnea. Apnea means to stop breathing.

So the point about the opioid toxidrome and how it kills is you go to sleep and die.

THE COURT: Pinpoint pupils mean pupils in your eye; is that right? Is what you're talking about?

THE WITNESS: It means that the pupils are super-duper tiny. So it's the black part of your eye. So in the sympathomimetic toxidrome your pupils are big, like really wide eyed. But someone who is opioid toxic and they're still alive, their pupils are teeny, tiny pinpoint.

BY MR. JUHAN:

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2.4

- Q. So kind of contrasting these two different categories, would it be an accurate generalization to say that someone who dies of cocaine overdose is super hyped up and dies. And someone who dies of an opioid overdose might just fall asleep and never wake up?
- A. Right. And that's very important because I do a lot of cases for different types of law enforcement where someone has a sudden death in custody. And so imagine you have this guy running down the street and he's naked, and he's sweaty, and he's agitated, and his pupils are big, and he's acting crazy. The police are chasing him. And he drops dead. Postmortem, there's heroin and cocaine. That's a cocaine death because he was cocaine toxic. That's not how you die from heroin.

Whereas I have cases where I'm supposed to figure out if someone died from an opioid and the story is they went

- 1 to sleep. They were snoring loudly and then they stopped
- 2 breathing and they died. And postmortem, there's cocaine and
- 3 heroin. Well, that's not how you die from cocaine, that's how
- 4 you die from heroin. So understanding what I call the
- 5 toxidrome, the perimortem circumstances, what was happening
- 6 around the time of death is critically important in ascribing
- 7 a cause of death to a particular substance.
- 8 Q. Is there also a term in your field called sedative
- 9 hypnotic?
- 10 A. Yes.
- 11 Q. Do we need to clear this to have some more room?
- 12 A. Yes. How do you clear it?
- 13 Q. I will do that for you.
- 14 A. Thank you. Fancy.
- 15 Q. There you go.
- $16 \mid A$. So there is another toxidrome called sedative hypnotic.
- 17 And one of the things that you invariably see in a lot of
- 18 these opioid deaths is Xanax. Xanax seems to always present.
- 19 | Xanax is the trade name. The actual generic name is
- 20 alprazolam. Any of the drugs that end in "am", clonazepam,
- 21 diazepam, alprazolam, these are called benzodiazepines.
- 22 | Q. What's a -- can you say, benzodiazepine, elaborate
- 23 please.
- 24 A. A benzodiazepine is an antianxiety agent. It is a
- 25 sedative. It's a hypnotic. Hypnotic means that it's supposed

to help you fall asleep. What's important about these benzodiazepines is that they are relatively new in our world of sedative hypnotics. In the 1960s, they had some really crazy sedative hypnotic agents. Like Elvis Presley died from Placidyl. There were the Mickey Finns, which was chloral hydrate and ethanol. There were a number of different agents that had significant respiratory depression that were very interesting. But since these benzodiazepines, these benzodiazepines do not have significant respiratory depression

- in and of themselves, so when -
 2. Can I stop you and ask, what -- nowadays, today, what are
- some examples that the jury might be familiar with of benzodiazepines?

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- A. So Xanax, Valium, Klonopin. Those are the ones that you might see in -- by prescription. In the hospital setting we use some others, like Versed for procedures.
- Q. I'm sorry, I interrupted. You were talking about how the benzodiazepines have changed from the '60s to today.
- A. The sedatives have changed from the '60s to today.

 Because today we have these benzodiazepines and they don't

 have significant respiratory depression. I see people

 overdose on an entire bottle of Xanax all the time. And they

 will come into the Emergency Department and they will be very

 sleepy, but they don't stop breathing and die. Now, by virtue

 of the fact they cause you to relax, you're going to breathe a

1 little bit slower because you're relaxed. But what you have to understand is that opioids go to the brain stem and they 2 3 work at certain receptors that cause you to stop breathing. 4 Now, these benzodiazepines may enhance that, but they do not 5 cause significant respiratory depression by themselves. You mentioned the brain stem and opioids going there. 6 7 Kind of explain a little bit about that to the jury. Where is the brain stem? What is it? What's it do? 8 9 Well, we all have brains. And there are the cerebral Α. 10 hemispheres, then there is the cerebellum, which helps you 11 with balance. And then going from the brain to the spinal 12 cord is your brain stem. This is where your critical life 13 functions live. And so if someone were to have a stroke there, it could be life threatening. The opioids go to 14 receptors that are found in the part of the brain stem that 15 16 keep you breathing. We don't think about breathing, really. 17 It's kind of a natural reflex. That's because our brain stem 18 is in control of it. The opioids go there and bind to 19 receptors that cause people to stop breathing. 20 THE COURT: Let me -- if I can interrupt. sure, and perhaps the jury knows this, but just to make sure. 21 22 You know, what is an opioid? What is it? What distinguishes 23 that agent from others? 2.4 THE WITNESS: Okay. That's actually a great 25 question because there are opiates. These are from the poppy.

BY MR. JUHAN:

Q. When you say "poppy," you mean the poppy plant?

straight from the poppy, it is an opiate.

A. Poppy plant. Do you remember watching the Wizard of Oz and they finally see the Emerald City, they're running through the poppy fields and they're getting really, really sleepy.

That's because poppies have opiates. So if the drug comes straight from the poppy, it is an opiate. So morphine and codeine and laudanum from the old-fashioned days. If it comes

Now, if you take one of those substances from the poppy and you play with it in a laboratory, you have what are called semi-synthetic opioids. You technically can't call it an opiate anymore because the opiate comes straight from the poppy. So once you've played with it in the laboratory, it becomes an opioid. So these would be things like hydrocodone and oxycodone, just for an example.

And then if you create it from scratch -- sorry guys -- synthetic, is if you create it from scratch in the laboratory, like a fentanyl or a methadone.

And so that's how we distinguish opioids. It's okay to call an opiate an opioid, but it's not okay to call an opioid an opiate.

- Q. Where does -- you have hydrocodone, oxycodone, fentanyl and methadone, is that the one --
- 25 A. Yes.

- 1 Q. Where does oxymorphone fall in these categories?
- 2 A. (Writing on screen.)
- 3 Q. So it's an opioid.
- 4 A. Yes.
- 5 Q. And what happens in the body when an individual takes
- 6 oxycodone? What does the body do to that oxycodone?
- 7 A. So can you erase it again, please?
- 8 Q. Sure.
- 9 A. Thank you.
- 10 Oxycodone is metabolized to oxymorphone.
- 11 | Q. What's the word "metabolize" mean?
- 12 A. It's how your body changes the parent substance. So the
- 13 parent substance is what you put into your body. And the
- 14 metabolite is what your body does to change it.
- 15 \ Q. Is there anything else that oxycodone and oxymorphone
- 16 | that you feel like the jury would be helpful for them to know?
- 17 A. So oxycodone is metabolized to oxymorphone. Oxymorphone
- 18 is not metabolized to oxycodone. So it's not uncommon after
- 19 someone has taken oxycodone to see oxycodone and oxymorphone
- 20 because oxymorphone is a metabolite. But you do not see
- 21 oxycodone present just from somebody taking oxymorphone.
- 22 | Q. So if someone takes oxycodone, they could have both
- 23 oxycodone and oxymorphone in their system?
- 24 A. Yes.
- Q. And if someone takes both oxycodone and oxymorphone, then

both of them could also be in the system too?

- A. Of course. Because that would be logical. If you take oxymorphone, you're going to have oxymorphone. If you take oxycodone, you will have oxycodone and oxymorphone.
 - Q. Okay. I have one last terminological question before we move to your ultimate opinion in the case. Just briefly describe to the jury what the term "pulmonary edema" is and how that relates to what you do as medical toxicologist and ER doc.
- 10 A. Sure.

Can you erase me again?

- 12 0. Sure.
- 13 A. Thanks.

So what he just said was pulmonary edema. Pulmonary edema. This is lung. This is fluid. (Indicating). And pulmonary edema is something that I invariably see in most opioid deaths, but it is not the toxidrome, per se. It is a result of the toxidrome. So one of the things that happens in individuals that are unconscious, the CNS depression, like we talked about with the opioid toxidrome, is you lose airway reflexes and the tissue in your airway collapses.

So, my husband snores at night, that's because when he falls asleep and he's unconscious, that airway tissue collapses on itself. And as he's breathing, it goes through that obstruction and makes the sound snoring. So what do I

do? I kick him a little bit and he wakes up and the snoring stops. Okay.

Similar thing happens when someone is unconscious from an opioid. The airway collapses on itself. Now that's an obstruction. As they're breathing, it makes that snoring sound. I want to be clear, it's not snoring. That's how lay people describe it. We call it agonal respirations. This is a very important thing because as they're struggling to breathe and get past that obstruction, they are creating negative pressure in their lungs.

So if you were to close your nose and close your mouth. Try to breathe. You feel yourself making this negative pressure in your lungs. You're trying to overcome that obstruction. That negative pressure pulls fluid into the lungs out of the capillaries in the bloodstream. Okay. So this is a process that takes a while as you're breathing slower and slower against this obstruction and they develop fluid in their lungs. And then when they are found dead, they are often found with what's called a "foam cone," or foam coming out of the nose and the mouth.

- Q. Dr. Hail, I'd like to talk about the opinion that you rendered in this case. You rendered an opinion regarding the cause of death of Heather Hartshorn, didn't you?
- 24 A. Yes.

2.3

 \mid Q. And in coming to that opinion, did you utilize your

1 training and experience --THE COURT: Yes, sir. 2 3 MR. WILLIAMS: Your Honor, I would note an objection 4 at this point. I think certainly there -- our position is 5 that she's getting ready to testify as to evidence that would be hearsay. It would also be in violation of confrontation 6 7 clause with respect to that she -- we anticipate she's going 8 to be testifying off of a document that is not in evidence. 9 That would be an out-of-court statement offered for the truth of the matter asserted. 10 11 THE COURT: Any response? 12 MR. JUHAN: Yes, Your Honor. An expert, of course, 13 can rely upon, in forming an opinion, things that aren't part In fact, I'm not going to ask her about the 14 of the record. 15 details of the document she relied upon, just what she relied 16 upon and what her conclusion was. 17 THE COURT: I'll overrule the objection. Your Honor, if I may, so I don't have 18 MR. WILLIAMS: to keep doing it, I just ask for a continuing objection. 19 20 THE COURT: Yes, sir. 21 BY MR. JUHAN: 22 Dr. Hail, I was asking you, in forming your opinion 23 regarding the death of Heather Hartshorn, did you utilize the 24 training and experience that you told the jury about? 25 Α. Yes.

- 1 Q. And did you use kind of the principles and terms and
- 2 standards that other experts in your field use and that you've
- 3 also told the jury about?
- 4 A. Yes.
- 5 Q. So I want to go over some of the things that you relied
- 6 upon in forming your opinion. Did you look at Heather
- 7 | Hartshorn's medical file?
- 8 A. I did.
- 9 MR. JUHAN: Ms. Vogt, if we could pull up Exhibit
- 10 HH, which is in evidence, specifically page 2.
- And blow up the last two lines on that entry.
- 12 BY MR. JUHAN:
- 13 Q. Dr. Hail, what does this entry in Miss Hartshorn's
- 14 medical file reflect?
- 15 \mid A. It reflects that on 2-20-17, which was two days prior to
- 16 her being found dead, she was prescribed oxymorphone,
- 17 | 30 milligrams, and oxycodone, 30 milligrams.
- 18 Q. Prescribed by whom?
- 19 A. Dr. Smithers.
- 20 MR. JUHAN: You can take that down.
- 21 Ms. Voqt, if we could go to Exhibit HH-298.
- 22 BY MR. JUHAN:
- 23 Q. And, Dr. Hail, what is this document?
- 24 A. This is a prescription for Heather Hartshorn that was
- 25 written on 2-20-17 for oxycodone, 30 milligrams IR, stands for

1 immediate release, and there were 55 prescribed by 2 Dr. Smithers.

MR. JUHAN: Thank you.

Ms. Vogt, if we might go to HH-299.

BY MR. JUHAN:

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- O. And what is this document?
- A. This is also a prescription for her that was written on 2-20-17, by Dr. Smithers, for oxymorphone, 30 milligrams ER, which stands for extended release. And that's important. And there were 60 that were prescribed.
- 11 Q. Why is it important that it's extended release?
 - A. The extended release preparations are pharmacologically engineered in such a way that the oxymorphone is trickled into your blood system over time; hence the name extended release.

 And what's important about this is these prescriptions, the
- 17 They are one and the same, okay.

trade name is Opana ER.

This particular drug is very prone to abuse because when you crush it up, instead of that little bit getting released over a long period of time you're getting a huge bolus of oxymorphone at one time.

- 22 Q. When you say "bolus," what's that mean?
- A. Bolus means all at once. That instead of this
 oxymorphone being released over an extended period of time,
 it's all at once.

The generic name is oxymorphone.

- Q. And would that kind of bolus or all at once also hold true if you took more than one extended release pill at a time?
 - A. Sure. Whether you take it by mouth -- it's certainly more dangerous to crush it up. But any of these opioids are dangerous if you take more than is prescribed at one time.
- Q. So you relied upon the patient files. Is that something that experts in your field would typically rely on to form an opinion on cause of death?
- 10 A. Yes.

- Q. What else did you rely upon? Without going into what was in what you relied upon, what else did you look at to form your opinion?
 - A. Well, as I was explaining earlier, a physician's job is to get a history from the patient. It's the single most important part of diagnosing somebody. So if somebody comes in and says, I'm having chest pains. Okay. Don't tell me anymore, I'm just going to draw some blood. That's obviously silly. You ask a lot of questions as a physician. You build a timeline. You look at what led up to the illness. The same is true in a cause of death opinion. Cause of death is a diagnosis. And so getting the history is vitally important. I call that in a death situation perimortem circumstances. What was happening around the time of death? So that information obviously can't come from the patient anymore, so

- 1 it comes from the police reports, the paramedic reports, and
- 2 the EMS reports. It comes from family testimony or what
- 3 friends might have described. It comes from scene photos. It
- 4 comes from where the person was found. Did they have a needle
- 5 in their arm? Were there prescription bottles? Things of
- 6 that sort are important in creating the history of perimortem
- 7 | that go in diagnosing the patient with what their cause of
- 8 death was.
- 9 Q. I want to be more specific about this case; Heather
- 10 | Hartshorn. You looked at her files. Did you look at an
- 11 autopsy report?
- 12 A. Yes.
- 13 Q. Did you look at a medical examiner's toxicology report?
- 14 A. Yes.
- 15 Q. Did you look at a police report?
- 16 A. Yes.
- 17 \mid Q. What -- was there anything else that you consulted?
- 18 A. The PMP.
- 19 | Q. And what's PMP?
- 20 A. The PMP is -- it stands for the Prescription Monitoring
- 21 Program. It is a document that is a data base prepared by --
- 22 it can be the Board of Pharmacy in some states, or the DEA in
- 23 other states. In Texas it is prepared by our Board of
- 24 Pharmacy. And I don't understand the exact process of
- 25 whether -- when you fill a prescription is there -- does it

- 1 immediately upload into this document or does someone have to
- 2 | manually put it in? I don't know how that works. But
- 3 | controlled substances that are filled in pharmacies get
- 4 uploaded into this document. And as an emergency physician, I
- 5 am able to access this document with my own DEA number. And
- 6 if I have a patient, I can see what they're being prescribed
- 7 in terms of a controlled substance. It doesn't show, like,
- 8 | blood pressure medicines and antibiotics. It's just
- 9 controlled substances. And I -- and then in this case, the
- 10 state of Virginia and the state of West Virginia provided PMPs
- 11 for her.
- 12 \mid Q. So to just kind of boil it down, PMP is basically a
- 13 database of prescriptions for patients; is that a fair
- 14 summary?
- 15 A. Yes. And every state has one, except Missouri and
- 16 | Washington D.C.
- 17 Q. So these things that you've said you consulted to form an
- 18 opinion in this case, are those all things that experts such
- 19 as yourself to form a cause-of-death opinion would consult?
- 20 A. Yes.
- 21 Q. Are you familiar with what's known as a "but for
- 22 causation standard of death"?
- 23 A. Yes.
- Q. Dr. Hail, what is your expert opinion about the cause of
- 25 death of Heather Hartshorn?

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               MR. WILLIAMS: Your Honor, I would object that this
 2
     is going to the ultimate decision to be tried by the jury.
 3
     certainly would object to that coming in.
 4
               THE COURT: I'll overrule the objection.
                           I'll ask the question again.
 5
               MR. JUHAN:
     BY MR. JUHAN:
 6
 7
          What is your expert opinion regarding the cause of death
     of Heather Hartshorn?
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 9
          My opinion is that Heather Hartshorn's cause of death is
     that she would not have died but for the oxymorphone and the
10
11
     oxycodone that was prescribed by Dr. Smithers on 2-20-17.
12
               MR. JUHAN: Doctor Hartshorn, thank you.
13
               If you would answer any questions the defense
     attorney might have.
14
                                       Mr Williams.
15
                          All right.
               THE COURT:
16
               MR. WILLIAMS: Your Honor, may I have just a brief
17
     recess to discuss with my client?
18
               THE COURT: Yes, sir.
               Ladies and gentlemen, we're going to take a short
19
20
     recess at this time. If you'll follow the bailiff out.
21
          (Proceedings held in the absence of the jury.)
22
               THE COURT: All right. We'll be in recess.
23
          (Proceedings suspended at 9:57 a.m. and resumed at 10:12
24
     a.m.)
25
               THE COURT:
                           All right. Are we ready for the jury?
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               MR. WILLIAMS:
                              We are, Your Honor.
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               THE COURT: All right. We'll have the jury back.
 3
          (Proceedings held in the presence of the jury.)
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               THE COURT: All right. Mr. Williams, you may
 5
     proceed.
                               Thank you, Your Honor.
 6
               MR. WILLIAMS:
 7
                            CROSS-EXAMINATION
 8
     BY MR. WILLIAMS:
 9
          Dr. Hail, you just testified regarding the death of
     Heather Hartshorn. You indicated that there were factors,
10
11
     certain things that you consulted outside of your -- outside
12
     documents and stuff like that to come to your decision; is
13
     that correct?
          What do you mean by "outside of the documents"?
14
15
          Like police reports, autopsy reports, things such as
16
     that; is that correct?
17
     Α.
          Correct.
18
          Okay. Based upon your examination of those, were there
     any other factors that you considered?
19
20
     Α.
          Well, that's kind of broad.
21
          Were there any other factors that you thought could have
22
     contributed that you had to look at to eliminate to come to
23
     your conclusion?
24
     Α.
          No.
25
          So, as far as any other type -- were there any other type
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- 1 drugs that were in Heather's system that you considered?
- 2 A. There were.
- 3 Q. Okay. What were those drugs?
- 4 A. Alprazolam and 7-aminoclonazepam.
- 5 Q. Okay. And what is 7-aminoclonazepam?
- 6 A. It is a metabolite of clonazepam. The trade name is
- 7 | Klonopin. Alprazolam and clonazepam are the benzodiazepines
- 8 that we talked about earlier.
- 9 Q. Okay. What are some of the side effects of
- 10 benzodiazepines?
- 11 A. Well, side effects would include things like being sleepy
- 12 or groggy.
- 13 Q. Okay. And would certain side effects be possibly
- 14 depression?
- 15 A. Yes.
- 16 O. Okay. What about suicidal behaviors?
- 17 A. Yes. And in that circumstance it's hard to figure out
- 18 what was first, the chicken or the egg, because these
- 19 | medications are used sometimes in anxiety, but they can also
- 20 have psychiatric effects too.
- 21 | Q. Are you aware whether Ms. Hartshorn had prescriptions for
- 22 | Klonopin?
- 23 A. I did not see a prescription for Klonopin.
- 24 Q. Okay. And I think you also said there was a prescription
- 25 for Xanax; is that correct?

- 1 A. Yes.
- Q. Okay. And Xanax also being a benzodiazepine, would you
- 3 expect the same side effects from it as well?
- 4 A. Yes.
- 5 | Q. Okay. And so someone who was on these drugs or taking
- 6 these drugs -- let me back up just a second.
- 7 Did she have -- did you find any evidence of a
- 8 prescription for Xanax?
- 9 A. Yes.
- 10 | Q. Okay. And when was that prescription filled, do you
- 11 recall?
- 12 \mid A. I believe it was on 2-20-17. And I believe that it was
- 13 | from Dr. Hassan. And it shows up on the West Virginia PMP.
- 14 \mid Q. Okay. And so that was also the same day that she also
- 15 got a prescription from Dr. Smithers; correct?
- 16 A. Correct.
- 17 | Q. Okay. Now, are you aware of any warnings that had been
- 18 given regarding the use of benzodiazepines and opiates
- 19 combined?
- 20 A. Correct. They should not be prescribed together.
- 21 Q. Okay. And, in fact, there's an FDA safety communication,
- 22 is there not, that came out in 2016?
- 23 A. Yes.
- 24 Q. Are you aware of that?
- MR. WILLIAMS: May I approach the witness,

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1
     Your Honor?
 2
               THE COURT: You may.
 3
               MR. WILLIAMS: Your Honor, may I approach the
 4
     witness?
 5
               THE COURT: You may.
     BY MR. WILLIAMS:
 6
 7
          Dr. Hail, I'm going to ask you if you would look at that
 8
     document, please.
 9
               Can you tell the members of the jury what that is a
     document of?
10
11
          Yes. This is a document that is FDA drug safety
12
     communication. "FDA warns about serious risks and death when
13
     combining opioid pain or cough medicines with benzodiazepines
     requires its strongest warning."
14
15
                 And what would be a strongest warning? What would
     Q.
          Okay.
16
     be something like that?
17
          Well I haven't read this entire document, but I suspect
18
     that what they're getting at is the fact that benzodiazepines
     enhance the respiratory depressant effects of opioids when
19
20
     they are combined, which is what we talked about earlier.
21
          Okay.
                 Would you mind reading the first paragraph of that
22
     document?
23
               MR. JUHAN: Your Honor, I object at this point.
     It's not been admitted into evidence.
2.4
25
               THE COURT: Yes, sir.
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1 MR. WILLIAMS: Okay. Your Honor --The question is do you move it into 2 THE COURT: 3 evidence? 4 MR. WILLIAMS: I move it into evidence at this 5 point. THE COURT: All right. I will admit it. 6 7 (Defense Exhibit 1 received.) THE COURT: Does it have a number? 8 MR. WILLIAMS: We would move it Defense Exhibit 1. 9 10 THE COURT: All right. 11 BY MR. WILLIAMS: 12 Dr. Hail, would you care to read the first paragraph and 13 read it out loud to the jury. Sure. "A U.S. Food and Drug Administration and FDA 14 15 review has found that the growing combined use of opioid 16 medicines with benzodiazepines or other drugs that depress the 17 central nerve system, CNS, has resulted in serious side 18 effects, including slow or difficult breathing and deaths. Opioids are used to treat pain and cough. Benzodiazepines are 19 20 used to treat anxiety, insomnia, and seizures. In an effort 21 to decrease the use of opioids and benzodiazepines, or opioids 22 and other CNS depressants, together we are adding box 23 warnings, our strongest warnings, to the drug labelling of 24 prescription opioid pain and prescription opioid cough 25 medicines and benzodiazepines."

- 1 MR. WILLIAMS: Thank you.
- 2 Ask that that be --
- 3 THE COURT: Sir, it's admitted. If you'll hand it
- 4 to the clerk, please.
- 5 BY MR. WILLIAMS:
- 6 Q. Now, Dr. Hail, were you aware that here recently that
- 7 there's been a black box warning regarding benzos and opiate
- 8 combinations that's been placed on that?
- 9 A. Yes.
- 10 Q. Okay. And so, at least through these documents, the FDA
- is concerned whenever benzodiazepines are combined with the
- 12 opiate-type medication; is that correct?
- 13 A. Correct.
- 14 Q. Okay. And so, with that, it would be there's a concern
- 15 \mid that there is this synergism between the two; is that correct?
- 16 A. Yes. Additive or synergistic. Additive is two plus two
- 17 | is four. Synergistic would be two plus two is six.
- 18 Q. Okay. Now, you said that Klonopin, that's broken down
- 19 into what?
- 20 A. 7-aminoclonazepam.
- 21 Q. Okay. And Xanax would be broken into what?
- 22 A. Xanax is alprazolam. And so it can be metabolized to
- 23 hydroxy alprazolam and then there are some others.
- Q. Okay. Now, Dr. Hail, isn't it true that there are
- 25 certain people that just for simple reasons pass away? No

- 1 | cause or anything else. I know that's a simple stupid
- 2 question, but I have a point that I'm sort of getting to.
- 3 A. Okay. Well, I would submit that you don't just die.
- 4 There has to be a reason for it.
- 5 0. There's a cause.
- 6 A. Yes.
- 7 Q. Okay. But it doesn't have to be based upon some kind of
- 8 | medication or anything else; correct?
- 9 A. Well, as I discussed earlier in the direct, the
- 10 methodology of a physician is to look at trauma, natural
- 11 causes, arrhythmia, toxicology causes.
- 12 | Q. Okay. Now, with respect to things, its true people
- 13 choose to take their own lives at times; correct?
- 14 A. Correct.
- $15 \mid Q$. And so sometimes, with respect to this, in reviewing
- 16 | Heather Hartshorn's medical records, did you come across
- 17 | anything you would consider regarding her history considering
- 18 | something where she might take her life?
- 19 A. Yes. She had a history of chronic back pain. She had a
- 20 history of depression and anxiety.
- 21 Q. Okay. And was there any indication of suicide attempts
- 22 or thoughts?
- 23 A. There was a mention that she had been suicidal in the
- 24 past. And her mother believed that she was suicidal as well.
- Q. Okay. Now, were there any type of physical ailments that

you considered regarding this?

- A. Not anything that would cause sudden death.
- Q. Okay. Was there anything regarding heart issues or anything else that was documented that you considered at all?
- A. On her autopsy report it was documented that she had an enlarged heart, and they called it hypertensive cardiovascular
- 7 disease.

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- 8 Q. Okay. What is hypertensive cardiovascular disease?
- 9 A. Well, hypertension means that your blood pressure is
- 10 elevated. And blood pressure that's elevated can take a toll
- on your body over time. And one of the things that can happen
- 12 is that you develop an enlarged heart. So think about the
- 13 | fact that your heart is a muscle. And if it's pumping against
- 14 | that high blood pressure all the time, what happens when you
- 15 | lift weights? It gets bigger. So her heart because it was
- 16 | pumping against apparently elevated blood pressure over some
- 17 | time -- she was only 35, but the heart was mildly enlarged.
- 18 | Q. Okay. And with that, would -- what would be the risk
- 19 that would be caused by that? What are some of the side
- 20 effects of that?
- 21 A. So having enlarged heart, or having hypertensive
- 22 cardiovascular disease is not a cause of death. I take care
- 23 of plenty of people in the ER every day that have enlarged
- 24 hearts. I see it on their chest X-rays all the time and they
- 25 live to tell about it. So it is not a cause of death.

Now, if your heart is enlarged, it could potentially be prone to having an arrhythmia, which is abnormal heart rhythm. But people with normal hearts can have abnormal heart rhythms too, for example, when you hear teenagers at football practice that suddenly have a lethal arrhythmia. So having an enlarged heart in and of itself doesn't mean an arrhythmia has occurred. And there's nothing postmortem that can be seen to prove that arrhythmia has or has not occurred because it's an electrical rhythm and once you die there is no rhythm anymore.

- Q. And you were not the one who conducted the autopsy; correct?
- 12 A. Correct.

- Q. And so when you're talking about arrhythmias -- I think
 you sort of touched on it a little bit, but I want to make
 sure the jury understands -- these are the type of things when
 we see young athletes playing basketball and they suddenly
 drop dead on the basketball court; correct?
- 18 A. Correct.
 - Q. And it would be sort of like the heart's kind of out of rhythm. In other words, I'm sitting here, I'm kind of nervous sitting up here. So mine is probably doing something like that (indicating), whereas somebody who is just driving down the road would have just sort of a normal heartbeat; correct? Typically.
- 25 Go ahead.

- A. Well, having a fast heart rate is called tachycardia.

 That's not necessarily a lethal rhythm. There are plenty of rhythms that are not normal that don't necessarily cause death.
- Q. Okay. But if an arrhythmia would occur, it would be something -- and correct me if I'm wrong -- it would be something sort of like where you might have a heartbeat, (clapping), and then you might have two, (clapping) and it would beat sort of out of order. Is that --

I know this is simple stupid terms. I'm a simple lawyer here and I'm just trying to make sure the jurors understand.

THE COURT: Just ask questions, please, Mr. Williams.

MR. WILLIAMS: Okay.

THE WITNESS: So, again, what you're just describing, a beat and then two beats, has a medical term called bigeminy. But when we are talking about lethal arrhythmias, we're talking about the drop-dead kind of arrhythmias. And these are things like ventricular fibrillation that needs to be shocked. Pulseless ventricular tachycardia, that needs to be shocked. There's something called torsades. And then there is asystole, which is flatline. So there is a whole host of rhythms that are abnormal that you learn about in medicine that is totally

beyond the scope of today, but that arrythmia that is lethal, 1 2 meaning causing someone to drop dead, is always a 3 consideration in a cause-of-death determination because there 4 is nothing anybody can see on the autopsy to prove or disprove 5 that it happened. Now I can see them sometimes in the Emergency Department if I happen to have the ability to catch 6 7 it on a monitor during a code. But once someone has died, 8 there's nothing that you can do to prove or disprove it. So it's always on the table as a consideration every single time 9 somebody dies, even if they have a car accident. 10 So what we 11 say in medicine when we look at an arrhythmia as a potential 12 cause of death is that it is a diagnosis of exclusion; meaning 13 that you have excluded other causes of death that are much 14 more likely than the potential for a lethal arrhythmia. BY MR. WILLIAMS: 15 16 Okay. Now, I think you stated that Heather had in her 17 system Klonopin and Xanax; is that correct? 18 Α. Correct. 19 Your Honor, may I approach the MR. WILLIAMS: 20 witness? 21 MR. RAMSEYER: Judge, if I may. Mr. Williams wanted 22 to introduce the package insert for Klonopin and Xanax. 23 don't have an objection to the package insert for the drugs 24 being in there, but we haven't had a chance to verify that 25 that's the current package insert. That's the only issue, if

1 we could have an opportunity at some point to make sure that's 2 the current package insert before it's introduced. 3 THE COURT: All right. Well, what about that? 4 mean, the documents need to be authenticated. Do you have any 5 evidence that that's the current --MR. WILLIAMS: I do not at this time. I mean, we 6 7 pulled this off of the website there for packaging, so that's 8 what we were intending to introduce, so. 9 THE COURT: Well, I mean, is it dated or anything like that? 10 11 One thing says, "FDA approved --MR. WILLIAMS: 12 THE COURT: I mean, I assume the witness doesn't 13 know what the current package insert is for these drugs. THE WITNESS: I'm comfortable answering a question 14 about it. I have not memorized it. 15 16 THE COURT: Right. But let me ask you this, 17 Dr. Hail. The package inserts are things that the regulatory 18 agency requires the drug companies to put in the prescription so that it warns doctors and patients of possible adverse 19 20 effects; is that correct? 21 THE WITNESS: Correct. 22 THE COURT: And these so-called package inserts change over time -- well, they change over time. 23 2.4 Right. The package insert is a piece THE WITNESS: 25 of paper that comes in the box with the prescription.

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1
     what's important to know about it is that it is a document
 2
     that is prepared by the drug company in conjunction with the
 3
     government. No offense to the feds, but this is kind of a
 4
     cover your butt sort of thing. So it's negotiated between the
 5
     drug company and the government. And it's meant to prevent
     the drug company from lawsuits. And it covers every possible,
 6
 7
     conceivable symptom known to mankind that could possibly
 8
     happen and it's included in that document.
 9
               From the standpoint of physicians, if you go to the
     doctor and they prescribe you something and they read the
10
11
     package insert, you should probably run the other way.
12
               THE COURT: All right.
13
               MR. WILLIAMS: Your Honor, we would move for
     admission of these documents.
14
15
               THE COURT: Well, I think the Government has
16
     objected on the grounds it's not been authenticated is my
17
     concern.
18
               MR. WILLIAMS:
                              Okay.
               THE COURT: So at this time I will exclude it.
19
                                                                Ι
20
     will not admit it.
21
               MR. WILLIAMS: May I approach the witness,
22
     Your Honor?
23
               THE COURT: You may.
     BY MR. WILLIAMS:
2.4
25
          Dr. Hail, I want to show you another document there from
```

- 1 the FDA. I think, once again, the FDA is --
- Can you just describe sort of what the FDA is? Food
- 3 and Drug Administration?
- 4 A. Yes.
- 5 Q. Okay. Their role would to be to look out for safety of
- 6 drugs, combination of drugs, approving drugs for distribution
- 7 and stuff; is that correct?
- 8 A. Yes.
- 9 Q. Okay. And the document that I've handed you, what is
- 10 that a document of?
- 11 A. This says, "FDA Drug Safety Communication. FDA urges
- 12 caution about withholding opioid --
- MR. JUHAN: I'm sorry, Your Honor. I have to
- 14 object. This isn't in evidence yet.
- 15 BY MR. WILLIAMS:
- 16 Q. I just asked her what it was. I didn't ask her really to
- 17 read it at this point. If I could --
- 18 A. Well, I'm seeing it for the first time, so I have to read
- 19 out loud to say what it is.
- 20 Q. If you don't mind, just look at it for a second.
- 21 THE COURT: Well, I think you've said, ma'am, that
- 22 it's a Food and Administration Drug Safety Communication, or
- 23 appears to be; is that accurate?
- 24 THE WITNESS: Yes. The FDA, the Food and Drug
- 25 Administration.

1 THE COURT: Well, it's a -- something on it says 2 Drug Safety Communication. 3 THE WITNESS: Yes. 4 THE COURT: All right. So what's your question 5 and --BY MR. WILLIAMS: 6 7 My question at this point --8 Certainly I would ask to be admitted MR. WILLIAMS: as a business record. With respect to the FDA, it's been on 9 their website and everything, and we would ask for its 10 11 admission at this time. 12 MR. JUHAN: Your Honor, there's no foundation for 13 business record exception. And we don't object to having questions be asked to the witness about the document. But as 14 15 far as its admission, there's no -- the witness has never seen 16 it before. There's no authentication. 17 MR. WILLIAMS: I'll ask questions. 18 BY MR. WILLIAMS: Okay. Dr. Hail, with respect to that document, what 19 20 are -- reading through it, I'm going to ask you just, if you 21 would, to read through it if you don't care, okay? 22 Dr. Hail, I'm going to ask you to read certain parts 23 Based upon your reading of that, what does that 24 document say? 25 This is an FDA --

```
Objection, Your Honor, what the document
 1
               MR. JUHAN:
 2
     says.
 3
               THE COURT:
                           I mean, is there something in there that
 4
     the doctor would know about? I mean, otherwise, you know, I
 5
     could read it or --
               MR. WILLIAMS:
 6
                              Right.
 7
               THE COURT: -- anybody can walk in off the street.
 8
     I mean, why don't you ask -- you can do what you want.
 9
                              Okay.
               MR. WILLIAMS:
                          But you may want to ask the doctor some
10
               THE COURT:
11
     question. I take it this has some relevance to the safety of
12
     other drugs or something like that.
13
               MR. WILLIAMS: Right.
     BY MR. WILLIAMS:
14
          Does this have -- this has -- Dr. Hail, this is a
15
16
     document that is talking about the safety and the concerns of
17
     the mixing --
18
                           Objection, Your Honor. He's still
               MR. JUHAN:
19
     talking about what the document says.
20
               THE COURT: Well, let me see the document, ma'am.
21
               Thank you.
22
               MR. WILLIAMS: Your Honor, I think I can rephrase my
23
     question if the Court will allow.
               THE COURT: Well, let me talk to counsel.
2.4
25
               Ladies and gentlemen, I'm going to -- this is maybe
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a technical point, but I need to talk to the lawyers a little bit about the admission of this document. So if you'll follow the bailiff out.

(Proceedings held in the absence of the jury.)

2.4

THE COURT: All right. Counsel -- I guess,
Mr. Juhan, you're handling this. Why is this not, not
admissible, but at least presented to the expert as a
statement containing a treatise periodical or pamphlet if the
statement is called to the attention of the expert witness on
cross-examination and the publication is established as a
reliable authority by the expert's admission or testimony. If
admitted, the statement may be read into evidence but not
received as an exhibit. That's at 803-18, under Federal Rules
of Evidence.

MR. JUHAN: Yes, Your Honor. There's been no foundation from this witness that that is what it is. It's a printout. We don't know who made the printout, where it came from. We don't know that it is reliable. So the foundational questions about -- that would go into forming the basis of this --

THE COURT: Right. No, I agree. Those things would have to be done. But, you know, let's get to the meat of it and why wouldn't it --

Mr. Williams, what I want you to do is to ask the witness if -- you know, what this is, what it appears to be,

whether it is a reliable authority. Now, it may not be 1 necessary. You know, she may agree with the statements made 2 3 I think she's already testified about the 4 combination of certain drugs and how that may be dangerous. 5 She's already admitted or testified to that. So you could ask her about it. But, otherwise, you need to lay the foundation 6 7 under the Rule 803 --8 MR. WILLIAMS: I understand. THE COURT: -- 18 in regard to this. 9 Got you. Thank you, Your Honor. 10 MR. WILLIAMS: 11 THE COURT: Do you understand? 12 I do, Your Honor. MR. WILLIAMS: 13 THE COURT: Okay. So what I'm going to do is hand 14 it back to the witness. And out of the presence of the jury, we're going to take up -- we'll see if you can establish that 15 16 with the witness. All right. 17 MR. WILLIAMS: THE COURT: And I'll allow the Government to ask any 18 19 questions out of the presence of the jury otherwise. 20 BY MR. WILLIAMS: 21 Dr. Hail, the document that I've handed you, what is that 22 document -- what authority is that document from? 23 This appears to be a FDA Drug Safety Communication. Α. 24 Okay. And the FDA Safety Administration would issue 25 these warnings for what?

- 1 A. Just to increase awareness with regard to issues with food or medications, things of that sort.
- Q. Okay. And does this document appear to be off of the FDA website?
- 5 A. It appears to be.
- Q. Okay. And is that a reliable authority that doctorsconsult and everything, toxicologists, regarding the
- 8 distribution of medication?
- 9 A. Certainly I would say it's reliable. I would make the
 10 point that it is not telling physicians how exactly to
 11 practice. It does not define the standard of care.
- 12 Q. Okay.
- THE COURT: All right. Now, what is it that you want her to read into evidence, if you wish her to read?
- MR. WILLIAMS: I think it was the first paragraph.
- 16 Your Honor. If I may have the document back just a second.
- THE COURT: Counsel, we need to move along. I'm not going to allow the entire document to be read. If there's some pertinent point that you wish the witness to read, if
- MR. WILLIAMS: I think there would be just two parts
- 22 within the document that we would ask for her to read,
- 23 Your Honor.

vou'll --

20

- 24 THE COURT: All right.
- 25 Mr. Juhan, anything else you want to say or ask to

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1
     the witness?
 2
               MR. JUHAN: Not at this time, Your Honor.
 3
               THE COURT:
                           All right. We'll have the jury back in.
 4
               And you're going to give the document to the witness
 5
     if you want her to read anything.
               MR. WILLIAMS: Okay. And we would move for its
 6
 7
     admission.
               THE COURT: It cannot be admitted.
 8
               MR. WILLIAMS: Gotcha. Understand.
 9
          (Proceedings held in the presence of the jury.)
10
11
               THE COURT: All right. Mr. Williams, you may
12
     proceed.
13
     BY MR. WILLIAMS:
          Dr. Hail, you've been presented with a FDA Safety
14
15
     Communication; is that correct?
16
          Correct.
     Α.
17
          Okay. And what is that safety communication about?
18
          This particular drug safety communication is about
     treating opioid addiction. And it is talking about not
19
20
     withholding the medication to treat opioid addiction, like
21
     methadone and buprenorphine, to individuals that are taking
22
     benzodiazepines because of the hope that they can start
23
     treating their opioid addiction.
24
          Okay. Dr. Hail, would you mind reading under where it
25
     says, "safety announcement" on page 1, 9-20-2017? Would you
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read that first paragraph?

- A. "Based on our additional review, the U.S. Food and Drug
 Administration, FDA, is advising that the opioid addiction
 medications buprenorphine and methadone should not be withheld
 from patients taking benzodiazepines or other drugs that
 depress the central nervous system. The combined use of these
 drugs increases the risk of serious side effects. However,
 the harm caused by untreated opioid addiction can outweigh
 these risks. Careful medication management by health care
 professionals can reduce these risks. We are requiring this
 information to be added to the buprenorphine and methadone
 drug labels, along with detailed recommendations for
 minimizing the use of medication-assisted treatment, MAT,
 drugs and benzodiazepines together."
- Q. And that's basically saying that someone who is taking opiates and also taking benzodiazepines would be what? If you're taking -- is it saying that you should not take the -- let me rephrase the question.

It's saying that opiate addiction, the harm of untreated opiate addiction can outweigh the risk of benzodiazepines; is that what it's saying?

A. What this is saying is not that it is safe to take opiates or opioids and benzodiazepines together. In fact, the whole point of the paragraph that I just read was about minimizing the use. However, when people take benzodiazepines

long term, they are at risk for abrupt withdrawal. Meaning that just like alcohol withdrawal is life threatening, 3 benzodiazepine withdrawal is also life threatening and so you can't just stop it. Okay. That's part of it.

The other part of this is that we're not saying that it is -- it's not saying it is safe to mix opioids and benzodiazepines at all. That is absolutely not what this is This is specifically with regard to opioid addiction and the medications used to treat addiction, which are methadone and buprenorphine, which have different pharmacology from the opioids that are at question today, which are oxymorphone and oxycodone, which are for pain, not for opioid addiction. So this specific communication is inapplicable to the case that we're discussing today.

- Now, Dr. Hail, with respect to what we have today, you admit that you were not present at the time the autopsy was conducted; correct?
- 18 Of course not. Α.
- 19 Okay. And you weren't present at the time they found
- 20 Miss Hartshorn's body, anything like that; correct?
- 21 Α. Correct.

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17

- 22 Okay. Now, Dr. Hail, how many times have you testified
- 23 in criminal cases?
- 24 How many times have I testified --Α.
- 25 Ο. In criminal cases.

In criminal cases? Just federal court? 1 Α. 2 Ο. Federal court. 3 I think this is my 12th or 13th. 4 Okay. And how many times have you testified for the defendant in those cases? 5 None in federal drug crime cases. 6 7 Okay. And I think you testified that your rate of pay is 8 \$550 an hour; is that correct? 9 Α. Correct. 10 MR. WILLIAMS: May I have a moment with my client, 11 Your Honor? 12 One second, Your Honor. I apologize. 13 No further questions, Your Honor. All right. Any further questions? 14 THE COURT: 15 MR. JUHAN: No further questions, Your Honor. 16 THE COURT: All right. Thank you, ma'am. 17 And you could hand that back to Mr. Williams. 18 THE WITNESS: Okay. THE COURT: And may this witness be excused? 19 20 You may be excused, ma'am. You may leave. 21 MR. WILLIAMS: Your Honor, my client has asked that 22 she be subject to further recall. 23 THE COURT: Well, ladies and gentlemen, I need you 24 to step out of the courtroom just a minute. 25 Yes, ma'am, if you'll just sit down there a minute.

1	THE WITNESS: Here or outside?
2	THE COURT: Just in here. Thank you.
3	(Proceedings held in the absence of the jury.)
4	THE COURT: All right. Mr. Williams, you're going
5	to have to explain to me why an expert witness who is here
6	coming from Dallas, Texas, and at some considerable expense of
7	the Government is subject to recall.
8	MR. WILLIAMS: Your Honor, I did not intend to call
9	her for recall. He was screaming in my ear for me to ask her
10	to be subject to recall. Upon talking with him now, we do not
11	need her to be subject to recall. I've explained to him what
12	that was and so on.
13	THE COURT: All right. Thank you, Dr. Hail, you may
14	leave. You're excused.
15	All right. As I understand, the Government has no
16	further witnesses at this time; is that correct?
17	MR. RAMSEYER: Yes, Your Honor.
18	THE COURT: Is there anything we need to take up
19	before I bring the jury back in and excuse them for the day?
20	All right. We'll have the jury back in, please.
21	(Proceedings held in the presence of the jury.)
22	THE COURT: All right. Ladies and gentlemen, we are
23	now concluded for the day. There's no further evidence to be
24	presented today. And so I'm going to let you go. It will be
25	necessary for you to return Monday morning. And, again, I'm

1 not sure how much evidence will be presented that day, but 2 we're -- we can see the horizon at the end of the case here. 3 We're getting toward the end. The Government does have at 4 least one witness that they're going to present on Monday 5 morning. So, have a good weekend. It's supposed to rain, I 6 7 think, maybe tomorrow, but let's hope it stays sunny, unless 8 you like rain. And please remember my instructions to you about not discussing this case with your family, friends, 9 acquaintances. Don't do any research on any of the 10 11 information we received today. Again, you're going to hear 12 all the evidence you properly may consider in the courtroom. 13 And it would not be proper for you to do any research on the internet or otherwise. 14 15 If there's any news accounts of the case, don't 16 read, listen, or watch any of them. So you may leave, and I 17 hope you have a good weekend, and we'll see you Monday 18 morning. 19 (Proceedings held in the absence of the jury.) 20 THE COURT: All right. Counsel, if there's nothing 21 further, then we will recess court. 22 (Proceedings concluded at 11:00 a.m.) 23 24

1	REPORTER'S CERTIFICATE
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3	I, DONNA J. PRATHER, do hereby certify that the
4	above and foregoing, consisting of the preceding 61 pages,
5	constitutes a true and accurate transcript of my stenographic
6	notes and is a full, true and complete transcript of the
7	proceedings to the best of my ability.
8	Dated this 6th day of June, 2019.
9	
10	S/Donna Prather
11	DONNA J. PRATHER, RPR, CRR, CBC, CCP
12	Federal Official Court Reporter
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